

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.**

Application Serial Number: 101807,096B  
Source: JEW/6  
Date Processed by STIC: 4/20/07

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IFW16

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/807,096B

DATE: 04/20/2007

TIME: 13:48:22

Input Set : A:\12-SQ Listing-16 April 2007.txt  
 Output Set: N:\CRF4\04202007\J807096B.raw

3 <110> APPLICANT: Svendsen, Allan  
 4 Minning, Stefan  
 6 <120> TITLE OF INVENTION: Subtilases  
 8 <130> FILE REFERENCE: 10321.200-US  
 C--> 10 <140> CURRENT APPLICATION NUMBER: US/10/807,096B  
 C--> 10 <141> CURRENT FILING DATE: 2004-03-22  
 10 <160> NUMBER OF SEQ ID NOS: 8  
 12 <170> SOFTWARE: PatentIn version 3.4  
 14 <210> SEQ ID NO: 1  
 15 <211> LENGTH: 433  
 16 <212> TYPE: PRT  
 17 <213> ORGANISM: Bacillus sp. JP170  
 19 <400> SEQUENCE: 1  
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 22 1 5 10 15  
 25 Phe Gly Leu Tyr Gly Gln Gly Gln Ile Val Ala Val Ala Asp Thr Gly  
 26 20 25 30  
 29 Leu Asp Thr Gly Arg Asn Asp Ser Ser Met His Glu Ala Phe Arg Gly  
 30 35 40 45  
 33 Lys Ile Thr Ala Leu Tyr Ala Leu Gly Arg Thr Asn Asn Ala Asn Asp  
 34 50 55 60  
 37 Pro Asn Gly His Gly Thr His Val Ala Gly Ser Val Leu Gly Asn Ala  
 38 65 70 75 80  
 41 Thr Asn Lys Gly Met Ala Pro Gln Ala Asn Leu Val Phe Gln Ser Ile  
 42 85 90 95  
 45 Met Asp Ser Gly Gly Leu Gly Gly Leu Pro Ala Asn Leu Gln Thr  
 46 100 105 110  
 49 Leu Phe Ser Gln Ala Tyr Ser Ala Gly Ala Arg Ile His Thr Asn Ser  
 50 115 120 125  
 53 Trp Gly Ala Pro Val Asn Gly Ala Tyr Thr Thr Asp Ser Arg Asn Val  
 54 130 135 140  
 57 Asp Asp Tyr Val Arg Lys Asn Asp Met Thr Ile Leu Phe Ala Ala Gly  
 58 145 150 155 160  
 61 Asn Glu Gly Pro Gly Ser Gly Thr Ile Ser Ala Pro Gly Thr Ala Lys  
 62 165 170 175  
 65 Asn Ala Ile Thr Val Gly Ala Thr Glu Asn Leu Arg Pro Ser Phe Gly  
 66 180 185 190  
 69 Ser Tyr Ala Asp Asn Ile Asn His Val Ala Gln Phe Ser Ser Arg Gly  
 70 195 200 205  
 73 Pro Thr Arg Asp Gly Arg Ile Lys Pro Asp Val Met Ala Pro Gly Thr  
 74 210 215 220  
 77 Tyr Ile Leu Ser Ala Arg Ser Ser Leu Ala Pro Asp Ser Ser Phe Trp  
 78 225 230 235 240

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81 Ala Asn His Asp Ser Lys Tyr Ala Tyr Met Gly Gly Thr Ser Met Ala  
 82 245 250 255  
 85 Thr Pro Ile Val Ala Gly Asn Val Ala Gln Leu Arg Glu His Phe Val  
 86 260 265 270  
 89 Lys Asn Arg Gly Val Thr Pro Lys Pro Ser Leu Leu Lys Ala Ala Leu  
 90 275 280 285  
 93 Ile Ala Gly Ala Ala Asp Val Gly Leu Gly Phe Pro Asn Gly Asn Gln  
 94 290 295 300  
 97 Gly Trp Gly Arg Val Thr Leu Asp Lys Ser Leu Asn Val Ala Phe Val  
 98 305 310 315 320  
 101 Asn Glu Thr Ser Pro Leu Ser Thr Ser Gln Lys Ala Thr Tyr Ser Phe  
 102 325 330 335  
 105 Thr Ala Gln Ala Gly Lys Pro Leu Lys Ile Ser Leu Val Trp Ser Asp  
 106 340 345 350  
 109 Ala Pro Gly Ser Thr Thr Ala Ser Leu Thr Leu Val Asn Asp Leu Asp  
 110 355 360 365  
 113 Leu Val Ile Thr Ala Pro Asn Gly Thr Lys Tyr Val Gly Asn Asp Phe  
 114 370 375 380  
 117 Thr Ala Pro Tyr Asp Asn Asn Trp Asp Gly Arg Asn Asn Val Glu Asn  
 118 385 390 395 400  
 121 Val Phe Ile Asn Ala Pro Gln Ser Gly Thr Tyr Thr Val Glu Val Gln  
 122 405 410 415  
 125 Ala Tyr Asn Val Pro Val Ser Pro Gln Thr Phe Ser Leu Ala Ile Val  
 126 420 425 430  
 129 His  
 133 <210> SEQ ID NO: 2  
 134 <211> LENGTH: 433  
 135 <212> TYPE: PRT  
 136 <213> ORGANISM: Bacillus sp. Y  
 138 <400> SEQUENCE: 2  
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 141 1 5 10 15  
 144 Tyr Gly Leu Tyr Gly Gln Gly Gln Leu Val Ala Val Ala Asp Thr Gly  
 145 20 25 30  
 148 Leu Asp Thr Gly Arg Asn Asp Ser Ser Met His Glu Ala Phe Arg Gly  
 149 35 40 45  
 152 Lys Ile Thr Ala Leu Tyr Ala Leu Gly Arg Thr Asn Asn Ala Ser Asp  
 153 50 55 60  
 156 Pro Asn Gly His Gly Thr His Val Ala Gly Ser Val Leu Gly Asn Ala  
 157 65 70 75 80  
 160 Leu Asn Lys Gly Met Ala Pro Gln Ala Asn Leu Val Phe Gln Ser Ile  
 161 85 90 95  
 164 Met Asp Ser Ser Gly Gly Leu Gly Gly Leu Pro Ser Asn Leu Asn Thr  
 165 100 105 110  
 168 Leu Phe Ser Gln Ala Trp Asn Ala Gly Ala Arg Ile His Thr Asn Ser  
 169 115 120 125  
 172 Trp Gly Ala Pro Val Asn Gly Ala Tyr Thr Ala Asn Ser Arg Gln Val  
 173 130 135 140  
 176 Asp Glu Tyr Val Arg Asn Asn Asp Met Thr Val Leu Phe Ala Ala Gly

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|     |   |     |     |     |
|-----|---|-----|-----|-----|
| 177 | 145   | 150 | 155 | 160 |
| 180 | Asn Glu Gly Pro Asn Ser Gly Thr Ile Ser Ala Pro Gly Thr Ala Lys |     |     |     |
| 181 |   | 165 | 170 | 175 |
| 184 | Asn Ala Ile Thr Val Gly Ala Thr Glu Asn Tyr Arg Pro Ser Phe Gly |     |     |     |
| 185 |   | 180 | 185 | 190 |
| 188 | Ser Ile Ala Asp Asn Pro Asn His Ile Ala Gln Phe Ser Ser Arg Gly |     |     |     |
| 189 |   | 195 | 200 | 205 |
| 192 | Ala Thr Arg Asp Gly Arg Ile Lys Pro Asp Val Thr Ala Pro Gly Thr |     |     |     |
| 193 |   | 210 | 215 | 220 |
| 196 | Phe Ile Leu Ser Ala Arg Ser Ser Leu Ala Pro Asp Ser Ser Phe Trp |     |     |     |
| 197 |   | 225 | 230 | 235 |
| 200 | Ala Asn Tyr Asn Ser Lys Tyr Ala Tyr Met Gly Gly Thr Ser Met Ala |     |     |     |
| 201 |   | 245 | 250 | 255 |
| 204 | Thr Pro Ile Val Ala Gly Asn Val Ala Gln Leu Arg Glu His Phe Ile |     |     |     |
| 205 |   | 260 | 265 | 270 |
| 208 | Lys Asn Arg Gly Ile Thr Pro Lys Pro Ser Leu Ile Lys Ala Ala Leu |     |     |     |
| 209 |   | 275 | 280 | 285 |
| 212 | Ile Ala Gly Ala Thr Asp Val Gly Leu Gly Tyr Pro Ser Gly Asp Gln |     |     |     |
| 213 |   | 290 | 295 | 300 |
| 216 | Gly Trp Gly Arg Val Thr Leu Asp Lys Ser Leu Asn Val Ala Tyr Val |     |     |     |
| 217 |   | 305 | 310 | 315 |
| 220 | Asn Glu Ala Thr Ala Leu Ala Thr Gly Gln Lys Ala Thr Tyr Ser Phe |     |     |     |
| 221 |   | 325 | 330 | 335 |
| 224 | Gln Ala Gln Ala Gly Lys Pro Leu Lys Ile Ser Leu Val Trp Thr Asp |     |     |     |
| 225 |   | 340 | 345 | 350 |
| 228 | Ala Pro Gly Ser Thr Thr Ala Ser Tyr Thr Leu Val Asn Asp Leu Asp |     |     |     |
| 229 |   | 355 | 360 | 365 |
| 232 | Leu Val Ile Thr Ala Pro Asn Gly Gln Lys Tyr Val Gly Asn Asp Phe |     |     |     |
| 233 |   | 370 | 375 | 380 |
| 236 | Ser Tyr Pro Tyr Asp Asn Asn Trp Asp Gly Arg Asn Asn Val Glu Asn |     |     |     |
| 237 |   | 385 | 390 | 395 |
| 240 | Val Phe Ile Asn Ala Pro Gln Ser Gly Thr Tyr Ile Ile Glu Val Gln |     |     |     |
| 241 |   | 405 | 410 | 415 |
| 244 | Ala Tyr Asn Val Pro Ser Gly Pro Gln Arg Phe Ser Leu Ala Ile Val |     |     |     |
| 245 |   | 420 | 425 | 430 |
| 248 | His   |     |     |     |
| 252 | <210> SEQ ID NO: 3  |     |     |     |
| 253 | <211> LENGTH: 433   |     |     |     |
| 254 | <212> TYPE: PRT   |     |     |     |
| 255 | <213> ORGANISM: Bacillus sp. SD-521                             |     |     |     |
| 257 | <400> SEQUENCE: 3   |     |     |     |
| 259 | Asn Asp Val Ala Arg Gly Ile Val Lys Ala Asp Val Ala Gln Asn Asn |     |     |     |
| 260 | 1   | 5   | 10  | 15  |
| 263 | Tyr Gly Leu Tyr Gly Gln Gly Gln Val Val Ala Val Ala Asp Thr Gly |     |     |     |
| 264 |   | 20  | 25  | 30  |
| 267 | Leu Asp Thr Gly Arg Asn Asp Ser Ser Met His Glu Ala Phe Arg Gly |     |     |     |
| 268 |   | 35  | 40  | 45  |
| 271 | Lys Ile Thr Ala Leu Tyr Ala Leu Gly Arg Thr Asn Asn Ala Asn Asp |     |     |     |
| 272 |   | 50  | 55  | 60  |

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275 Pro Asn Gly His Gly Thr His Val Ala Gly Ser Val Leu Gly Asn Ala  
 276 65 70 75 80  
 279 Leu Asn Lys Gly Met Ala Pro Gln Ala Asn Leu Val Phe Gln Ser Ile  
 280 85 90 95  
 283 Met Asp Ser Ser Gly Gly Leu Gly Gly Leu Pro Ser Asn Leu Asn Thr  
 284 100 105 110  
 287 Leu Phe Ser Gln Ala Trp Asn Ala Gly Ala Arg Ile His Thr Asn Ser  
 288 115 120 125  
 291 Trp Gly Ala Pro Val Asn Gly Ala Tyr Thr Ala Asn Ser Arg Gln Val  
 292 130 135 140  
 295 Asp Glu Tyr Val Arg Asn Asn Asp Met Thr Val Leu Phe Ala Ala Gly  
 296 145 150 155 160  
 299 Asn Glu Gly Pro Asn Ser Gly Thr Ile Ser Ala Pro Gly Thr Ala Lys  
 300 165 170 175  
 303 Asn Ala Ile Thr Val Gly Ala Thr Glu Asn Tyr Arg Pro Ser Phe Gly  
 304 180 185 190  
 307 Ser Leu Ala Asp Asn Pro Asn His Ile Ala Gln Phe Ser Ser Arg Gly  
 308 195 200 205  
 311 Ala Thr Arg Asp Gly Arg Ile Lys Pro Asp Val Thr Ala Pro Gly Thr  
 312 210 215 220  
 315 Phe Ile Leu Ser Ala Arg Ser Ser Leu Ala Pro Asp Ser Ser Phe Trp  
 316 225 230 235 240  
 319 Ala Asn Tyr Asn Ser Lys Tyr Ala Tyr Met Gly Gly Thr Ser Met Ala  
 320 245 250 255  
 323 Thr Pro Ile Val Ala Gly Asn Val Ala Gln Leu Arg Glu His Phe Ile  
 324 260 265 270  
 327 Lys Asn Arg Gly Ile Thr Pro Lys Pro Ser Leu Ile Lys Ala Ala Leu  
 328 275 280 285  
 331 Ile Ala Gly Ala Thr Asp Val Gly Leu Gly Tyr Pro Ser Gly Asp Gln  
 332 290 295 300  
 335 Gly Trp Gly Arg Val Thr Leu Asp Lys Ser Leu Asn Val Ala Tyr Val  
 336 305 310 315 320  
 339 Asn Glu Ala Thr Ala Leu Ala Thr Gly Gln Lys Ala Thr Tyr Ser Phe  
 340 325 330 335  
 343 Gln Ala Gln Ala Gly Lys Pro Leu Lys Ile Ser Leu Val Trp Thr Asp  
 344 340 345 350  
 347 Ala Pro Gly Ser Thr Thr Ala Ser Tyr Thr Leu Val Asn Asp Leu Asp  
 348 355 360 365  
 351 Leu Val Ile Thr Ala Pro Asn Gly Gln Lys Tyr Val Gly Asn Asp Phe  
 352 370 375 380  
 355 Ser Tyr Pro Tyr Asp Asn Asn Trp Asp Gly Arg Asn Asn Val Glu Asn  
 356 385 390 395 400  
 359 Val Phe Ile Asn Ala Pro Gln Ser Gly Thr Tyr Thr Ile Glu Val Gln  
 360 405 410 415  
 363 Ala Tyr Asn Val Pro Ser Gly Pro Gln Arg Phe Ser Leu Ala Ile Val  
 364 420 425 430  
 367 His  
 371 <210> SEQ ID NO: 4  
 372 <211> LENGTH: 275

RAW SEQUENCE LISTING  
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Input Set : A:\12-SQ Listing-16 April 2007.txt  
Output Set: N:\CRF4\04202007\J807096B.raw

373 <212> TYPE: PRT  
 374 <213> ORGANISM: Bacillus amyloliquefaciens  
 376 <400> SEQUENCE: 4  
 378 Ala Gln Ser Val Pro Tyr Gly Val Ser Gln Ile Lys Ala Pro Ala Leu  
 379 1 5 10 15  
 382 His Ser Gln Gly Tyr Thr Gly Ser Asn Val Lys Val Ala Val Ile Asp  
 383 20 25 30  
 386 Ser Gly Ile Asp Ser Ser His Pro Asp Leu Lys Val Ala Gly Gly Ala  
 387 35 40 45  
 390 Ser Met Val Pro Ser Glu Thr Asn Pro Phe Gln Asp Asn Asn Ser His  
 391 50 55 60  
 394 Gly Thr His Val Ala Gly Thr Val Ala Ala Leu Asn Asn Ser Ile Gly  
 395 65 70 75 80  
 398 Val Leu Gly Val Ala Pro Ser Ala Ser Leu Tyr Ala Val Lys Val Leu  
 399 85 90 95  
 402 Gly Ala Asp Gly Ser Gly Gln Tyr Ser Trp Ile Ile Asn Gly Ile Glu  
 403 100 105 110  
 406 Trp Ala Ile Ala Asn Asn Met Asp Val Ile Asn Met Ser Leu Gly Gly  
 407 115 .. 120 125  
 410 Pro Ser Gly Ser Ala Ala Leu Lys Ala Ala Val Asp Lys Ala Val Ala  
 411 130 135 140  
 414 Ser Gly Val Val Val Ala Ala Gly Asn Glu Gly Thr Ser Gly  
 415 145 150 155 160  
 418 Ser Ser Ser Thr Val Gly Tyr Pro Gly Lys Tyr Pro Ser Val Ile Ala  
 419 165 170 175  
 422 Val Gly Ala Val Asp Ser Ser Asn Gln Arg Ala Ser Phe Ser Ser Val  
 423 180 185 190  
 426 Gly Pro Glu Leu Asp Val Met Ala Pro Gly Val Ser Ile Gln Ser Thr  
 427 195 200 205  
 430 Leu Pro Gly Asn Lys Tyr Gly Ala Tyr Asn Gly Thr Ser Met Ala Ser  
 431 210 215 220  
 434 Pro His Val Ala Gly Ala Ala Leu Ile Leu Ser Lys His Pro Asn  
 435 225 230 235 240  
 438 Trp Thr Asn Thr Gln Val Arg Ser Ser Leu Glu Asn Thr Thr Lys  
 439 245 250 255  
 442 Leu Gly Asp Ser Phe Tyr Tyr Gly Lys Gly Leu Ile Asn Val Gln Ala  
 443 260 265 270  
 446 Ala Ala Gln  
 447 275  
 450 <210> SEQ ID NO: 5  
 451 <211> LENGTH: 7  
 452 <212> TYPE: PRT  
 453 <213> ORGANISM: Artificial Sequence  
 455 <220> FEATURE:  
 456 <223> OTHER INFORMATION: Synthetic  
 458 <400> SEQUENCE: 5  
 460 Leu Asn Asn Ser Ile Gly Val  
 461 1 5  
 464 <210> SEQ ID NO: 6

**VERIFICATION SUMMARY**

PATENT APPLICATION: US/10/807,096B

DATE: 04/20/2007

TIME: 13:48:23

Input Set : A:\12-SQ Listing-16 April 2007.txt

Output Set: N:\CRF4\04202007\J807096B.raw

L:10 M:270 C: Current Application Number differs, Replaced Current Application No

L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date